

Tool: Raptor (Availability & Operations Analysis)

ARINC's Raptor software is a reliability-block-diagram (RBD) tool that simulates operations analysis with an emphasis on availability, a probability measure that is a function of reliability (up time) and maintainability (down time).

In general, Raptor "simulates the operations of any system, whether a manufacturing plant, communications network, or military aircraft. Raptor characterizes the system's cost, reliability, and capacity, and can highlight capacity bottlenecks, high failure-rate components, and resource hogs that are driving up the cost of your operations." (Source:

<http://www.arinc.com/products/raptor/index.html>).

In particular, Raptor provides 18 failure and repair probability density functions (pdf) to analyze system reliability (availability if the system is repairable), logistics constraints, preventive maintenance, dependency, standby, weak links, capacity, mission phasing, and cost.

In relation to the Relex software, an integrated suite of design and assurance analysis tools located on the Kennedy Space Center (KSC) network, the Raptor software provides an additional capability in success space just as INL's SAPHIRE software provides an additional capability in failure space.

KSC S&MA Integration (Tim Adams, SA-G2, 321-867-2267, tim.adams@nasa.gov) has Raptor and has received training. Since Raptor is not on the KSC network, if you want to use Raptor, you will need to purchase a copy.